

AMENDMENTS TO THE CLAIMS:

Please add the claims as indicated hereinbelow. This listing of the claims hereinbelow replaces all prior versions.

1. – 88. (Cancelled)

89. (Previously Presented) Macroscopic amounts of a fullerene isolated from a sooty carbon product formed from vaporizing elemental carbon soot in the presence of an inert quenching gas.

90. (Previously Presented) A fullerene, isolated from a sooty carbon product formed from vaporizing elemental carbon in the presence of an inert quenching gas, as a visible product.

91. (Previously Presented) The fullerene of Claim 90 isolated as a solid product.

92. (Previously Presented) A fullerene chemically produced that is recovered as a visible solid.

93. (Previously Presented) Macroscopic amounts of an allotrope of carbon consisting solely of carbon atoms, and soluble in non-polar solvents, which allotrope of carbon is neither graphite nor diamond, and which alleotrope of carbon is isolated from a sooty carbon product formed from vaporizing elemental carbon in the presence of an inert quenching gas.

94. (Cancelled)

95. (Previously Presented) A substantially pure product of any one of Claims 89-93.

96. (Previously Presented) A substantially pure crystalline product of any one of Claims 89-93.

97. (Previously Presented) A cage carbon allotrope consisting solely of carbon atoms

That is isolated from a sooty carbon product formed from the vaporization of carbon in the presence of an inert quenching gas as a visible product, said allotrope of carbon being neither graphite nor diamond, and said allotrope of carbon being soluble in non-polar organic solvents.

98. (Previously Presented) A visible solid carbon product prepared by the process comprising:

- (a) vaporizing elemental carbon in the presence of an inert quenching gas under conditions effective to provide a sooty carbon product comprising fullerene molecules;
- (b) depositing the sooty carbon product on a collecting substrate;
- (c) removing the sooty carbon product from the collecting substrate;
- (d) contacting the sooty carbon product with a non-polar organic solvent effective to dissolve the fullerene molecules in said sooty carbon product; and
- (e) recovering from said visible solvent a solid carbon product comprising fullerene, said visible solid carbon product being substantially fullerene.

99. (Previously Presented) A visible solid carbon product prepared by the process comprising:

- (a) vaporizing elemental carbon in the presence of an inert quenching gas under conditions effective to provide a sooty carbon product comprising fullerene molecules;
- (b) depositing the sooty carbon product on a collecting substrate;
- (c) removing the sooty carbon product comprising fullerene from the sooty carbon product;
- (d) subliming the carbon product comprising fullerene from the sooty carbon product; and
- (e) condensing the sublimed carbon product and recovering therefrom a visible solid carbon product being substantially fullerene.

100. (Previously Presented) The visible solid carbon product of Claim 98 or 99 wherein the process further comprises:

(f) purifying the carbon product of step (e).

101. (Previously Presented) The visible solid carbon product of Claim 98 or 99 wherein elemental carbon is graphite, amorphous carbon or glassy carbon.

102. (Previously Presented) The visible solid product of Claim 98 or 99 wherein the inert quenching gas is a noble gas.

103. (Previously Presented) The visible solid product of Claim 98 or 99 wherein the carbon is vaporized in a reaction vessel which has been evacuated prior to the carbon vaporization step.

104. (Previously Presented) A fullerene present in amounts sufficient to be visible.

105. (Previously Presented) A visible amount of fullerene in solid form.

106. (Previously Presented) A visible amount of fullerene produced by vaporizing carbon in the presence of an inert quenching gas to produce a sooty carbon product comprising fullerene and separating and isolating the fullerene thus produced therefrom, said fullerene being present in solid form.

107. (Previously Presented) Macroscopic amounts of a fullerene.

108. (New) A cage carbon allotrope consisting solely of carbon atoms that is soluble in non-polar organic solvents, prepared by the process comprising:

(a) vaporizing elemental carbon in the presence of an inert quenching gas under conditions effective to form a sooty carbon product comprising said cage carbon allotrope, said cage carbon allotrope being present therein in amounts sufficient

to be capable of providing a visibly colored solution when extracted with sufficient amounts of benzene; and

- (b) extracting said cage carbon allotrope in amounts sufficient to provide a visibly colored solution when extracted with benzene in amounts sufficient to dissolve the cage carbon allotrope in said sooty carbon product.

109. (New) A cage carbon allotrope consisting solely of carbon atoms that is present in amounts sufficient to provide a visibly colored product after being dissolved in benzene and then evaporating off benzene.

110. (New) A cage carbon allotrope that is prepared by the process comprising

- (a) vaporizing elemental carbon in the presence of an inert quenching gas under conditions effective to provide a sooty carbon product comprising molecules of said cage carbon allotrope, said molecules of the cage carbon allotrope being present in said sooty carbon product in amounts sufficient to be capable of providing a visibly colored solution when extracted with benzene;
- (b) depositing the sooty carbon product on a collecting surface;
- (c) removing the sooty carbon product from the collecting surface; and
- (d) extracting a product which is predominantly said cage carbon allotrope from said sooty carbon product, said cage carbon allotrope being present in sufficient quantities to provide a visible colored solution when extracted with benzene present in amounts sufficient to dissolve the cage carbon allotrope present in said sooty carbon product.

111. (New) A cage carbon allotrope consisting solely of carbon atoms that is soluble in non-polar organic solvents produced by the process comprising:

- (a) vaporizing elemental carbon in the presence of an inert quenching gas under conditions effective to form a sooty carbon product comprising molecules of said cage carbon allotrope, said molecules of said cage carbon allotrope being present in said sooty carbon product in amounts capable of extracting therefrom said cage carbon allotrope in solid form; and
- (b) extracting in solid form said cage carbon allotropes from said sooty carbon product.

112. (New) A cage carbon allotrope consisting solely of carbon atoms that is soluble in non-polar organic solvents produced by the process comprising:

- (a) vaporizing elemental carbon in the presence of an inert quenching gas at a pressure sufficient to generate a sooty carbon product comprising said cage carbon allotrope, said cage carbon allotrope being present in said sooty carbon product in sufficient amounts to produce and collect therefrom crystalline product of cage carbon allotrope; and
- (b) separating said cage carbon allotrope from said sooty carbon product under conditions effective to recover it in crystalline form.

113. (New) A cage carbon allotrope consisting solely of carbon atoms that is soluble in non-polar organic solvents and is present in amounts sufficient to be amassed in solid form.

114. (New) The cage carbon allotrope of Claim 112 which is in crystalline form.

115. (New) A cage carbon allotrope consisting solely of carbon atoms that is soluble in non-polar organic solvents produced by the process comprising:

- (a) vaporizing elemental carbon vapor in an atmosphere of an inert gas;

- (b) quenching said carbon vapor in said inert gas under conditions sufficient to effectively condense and nucleate said vapor to form a sooty carbon product comprising molecules of said cage carbon allotrope in sufficient quantities to extract therefrom an amount sufficient to collect said cage carbon allotrope as a crystalline product;
- (c) collecting said sooty carbon product;
- (d) separating said cage carbon allotrope from said sooty carbon product and recovering therefrom said cage carbon allotrope in crystalline form.

116. (New) The cage carbon allotrope according to Claim 116 wherein carbon vapor is quenched for a sufficient distance from the situs of vaporization to form said sooty carbon product.

117. (New) The cage carbon allotrope according to Claim 117 wherein said distance is about 5 to 10 cm from the situs of vaporization.

118. (New) A cage carbon allotrope consisting solely of carbon atoms produced by the process comprising:

- (a) vaporizing elemental carbon in an atmosphere of an inert gas at a pressure sufficient to generate a sooty carbon product comprising cage carbon allotrope; said cage carbon allotrope being present in sufficient quantities to recover therefrom said cage carbon allotrope in amounts to be isolated as a colored solid;
- (b) separating said cage carbon allotrope from said sooty carbon product under conditions effective to recover therefrom a colored crystalline cage carbon allotrope.

119. (New) A cage carbon allotrope of carbon consisting solely of carbon atoms that is soluble in non-polar organic solvents that is present in amounts sufficient to be observed as a colored crystalline solid.

120. (New) Substantially pure fullerenes in solid form.

121. (New) Substantially pure fullerene in crystalline form.